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Methods: Patients with a diagnosis of solid cancer and COVID-19 PCR positive were screened. The patients enrolled whether patient has at least one negative COVID-19 PCR test and clinical improvement. In addition to that at least 28 days after the previous positive COVID-19 PCR result, the patient must have a confirmed COVID-19 PCR positive result again.

Results: Total 1024 patients with COVID-19 PCR positive solid malignancy were screened. Thirty-two patients were included in the study. The median time between the first COVID-19 infection and reinfection was 46 (30-194) days. The reinfection rate was 3.1%. The most common cancer subtype was lung cancer. Mortality rate of reinfection was 34.3% (n=11). Ferritin and creatinine values of serum parameters in reinfection were found to be significantly higher compared to the first infection, respectively (p=0.015, p=0.014). Nine patients with only 1 comorbidity had higher mortality (p=0.052). During reinfection period rate of patients hospitalized in intensive care unit was significantly higher compared with rate of patients during first COVID-19 infection (p=0.002). The mortality rate in 8 patients using antiaggregant or anticoagulant for a long time was not statistically different from the group who did not use it (p=0.681).

Conclusions: Solid cancer patients have a higher mortality rate in COVID-19 reinfection. The reinfection rate was 3.1%. This study demonstrated one of the first preliminary clinical results of COVID-19 reinfection in solid cancer patients.

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1569P A multicenter analysis of the outcome of cancer patients with neutropenia and COVID-19 infection optionally treated with granulocyte colony-stimulating factor (G-CSF): A comparative analysis

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Background: SARS-CoV-2 infection can induce a host hyperinflammatory response induced by a cytokine storm, that is the main cause of mortality. Myelosuppression is associated with higher risk of infections and mortality. Few reports have addressed about the management of patients with neutropenia and COVID-19. Herein, we present a retrospective study during COVID-19 outbreak in neutropenic cancer patients with COVID-19 comparing the outcome and survival between G-CSF treated vs G-CSF non-treated group.

Methods: Retrospective data were collected from clinical reports. Inclusion criteria were cancer with neutropenia (<1500 cells/mm3) and concomitant COVID-19 infection. Comorbidities, tumor, stage, treatment, neutropenia severity, G-CSF, COVID-19 parameters and mortality were analyzed. Exploratory analysis of both cohorts (G-CSF treated and G-CSF non treated) and a multivariable logistic regression was done to predict respiratory failure and death.

Results: Among 943 patients with cancer and COVID-19 from 14 hospitals in Spain, 8% had neutropenia. Two cohorts according to G-CSF treatment were identified: 40 patients received G-CSF vs 43 G-CSF non-treated. Lung (26%) was the main location and most had advanced disease (67%). No differences according to baseline characteristics were found, except for the cancer treatment and the center's protocols for neutropenia management (p=0.001). 63% of patients died because respiratory failure. Neutropenia was presented in 76% of patients. Patients treated with G-CSF had a higher rate of respiratory failure vs non-treated (p=0.001) and required oxygen support (p=0.002). In G-CSF treated cohort, we found that the days with G-CSF showed a significant trend toward worse outcome and higher mortality. A logistic regression model was developed to predict respiratory failure as a function of the days of G-CSF treatment. After adjusting several relevant covariates, a significant effect was obtained for the days of G-CSF treatment (OR = 1.4, 95% CI [1.03, 1.92], p-value = 0.03).

Conclusions: Our findings suggest that G-CSF treatment could be disadvantageous in cancer patients with COVID-19, with a probable worse outcome.

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1570P Outcome and prognostic factors of COVID-19 infection in cancer patients: Final results of SAKK 80/20

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Background: These are the final results of a national registry on COVID-19 in Switzerland.

Methods: We collected data on 501 symptomatic COVID-19 infected cancer patients from 23 Swiss sites, starting March 1, 2020. Testing recommendations were set by the Federal Office of Public Health. The main objective of the study was to assess the outcome (i.e. mortality, rate of hospitalization, ICU admission) of COVID-19 infection in cancer patients, the main secondary objective was to define prognostic factors.

Results: With a cutoff date of March 15, 2021 and exclusion of 46 patients who refused consent, 455 patients were included into the final analysis. Most frequent malignancies were breast in 63 cases (14%), lung in 47 (10%), prostate cancer in 25 (6%), myeloma in 19 (4%); 205 patients (45%) had non-curative disease. Systemic treatment within 3 months prior to COVID-19 diagnosis included chemotherapy in 101 cases (23%), targeted therapy in 94 (21%), steroids in 78 (17%) and checkpoint inhibitors in 34 (8%). 285 patients (63%) were hospitalized for COVID-19, 213 (47%) required oxygen, 43 (9%) invasive ventilation, 62 (14%) were admitted to the ICU. Death from COVID-19 infection occurred in 98 patients, resulting in a mortality rate of 21.5%. Age ≥ 65 versus <65 (OR 3.35, p=0.001), non-curative versus curative disease (OR 2.21, p=0.021), ICU admission (OR 4.53, p<0.001) and oxygen requirement (OR 23.25, p<0.001) were independently associated with increased mortality. Neither male versus female gender (OR 1.20, p=0.56), hematological versus solid malignancy (OR 1.01, p=0.97), pulmonary comorbidity (OR 0.96, p=0.93), cardiovascular comorbidity (OR 1.11, p=0.75), chemotherapy as defined above (OR 1.43, p=0.31) or checkpoint inhibitors (OR=2.81, note p=0.082) were significant risk factors for death.

Conclusions: We found a high COVID-19 mortality rate of 21.5% in real-world cancer patients for the first wave of the pandemic in a country with a decentralized, high-quality health care system with universal access (COVID-19 mortality of 1.7% in the general population during the same time interval). The rate of hospitalization and ICU admission for COVID-19 in cancer patients is substantial.

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